C. L. PEIRCE, Jr.

INSULATOR BRACKET.

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1,006,268.

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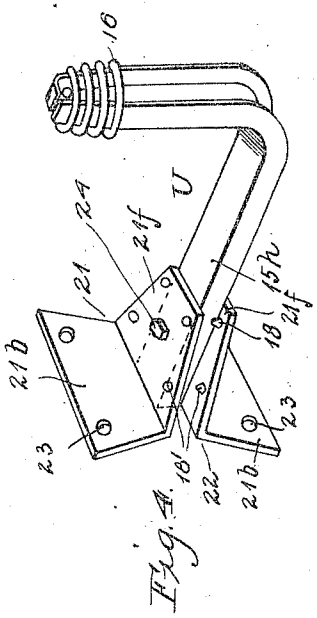

Fig. 4.

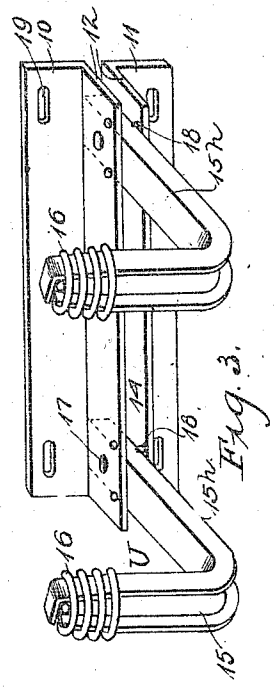

Fig. 3.

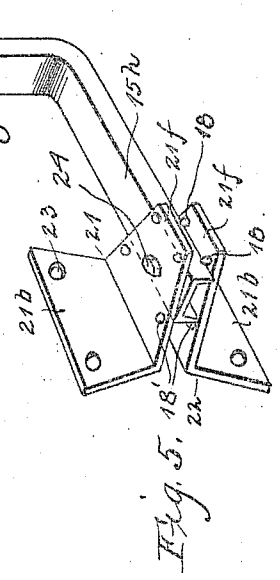

Fig. 5.

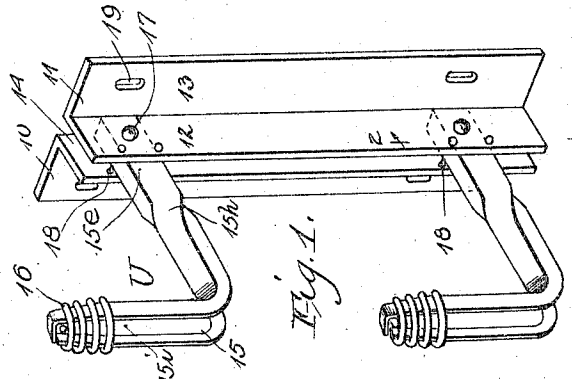

Fig. 1.

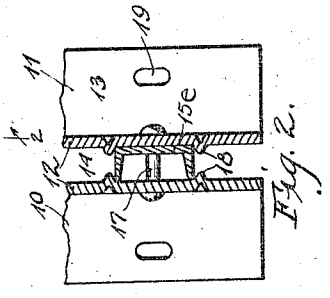

Fig. 2.

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UNITED STATES PATENT OFFICE.

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INSULATOR-BRACKET.

1,006,268. Specification of Letters Patent. Patented Oct. 17, 1911.

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To all whom it may concern:

Be it known that I, CHARLES L. PEIRCE, JR., a resident of Pittsburgh, county of Allegheny, and State of Pennsylvania, have invented certain new and useful Improvements in Insulator-Brackets, of which the following is a specification.

My invention relates to insulator brackets, particularly to brackets formed entirely of metal, such as steel.

The more modern insulator brackets usually comprise a back piece generally in the form of a channel iron, to which back piece the insulator supporting units are secured, as by being riveted thereto. These back pieces are very narrow and do not form a wide base and will not, therefore, sufficiently protect the insulator units against side swing or displacement by the tension of wires supported thereon. Furthermore, these back pieces are usually of just sufficient width to accommodate the supporting units so that the bolt holes for securing the strip to a support must be either above or below the point of strain of the wires on the insulators, this often resulting in introducing lever effect which will tend to buckle, bend or twist the back piece.

One object of my invention is to substitute a back support comprising two members instead of a single member and without materially increasing the weight of the bracket.

Another object is to construct and arrange the members of the back support so that insulator supporting units can be rigidly secured between them and locked in various angular positions with reference to the members.

Another object is to so form and construct the members of the back support that bolt holes can be provided therethrough to be in line with the direction of strain on the bracket to thereby prevent buckling, twist or other distortion of the back member.

My invention is clearly disclosed in the following specification and illustrated on the accompanying drawing, in which drawing,

Figure 1 is a perspective view of the bracket built in accordance with my invention, Fig. 2 is a sectional view of a part of the bracket taken on plane 2—2, Fig. 1, Fig. 3 is a perspective view showing a modified arrangement, Fig. 4 is a perspective view showing another form of members forming the back support, and Fig. 5 shows a modified arrangement of relative position between the back support and the insulator carrying unit.

Referring to Figs. 1 and 2, the back support comprises two angle irons 10 and 11 whose limbs 12 and 13 are at right angles with each other, the vertical limbs 12 being spaced apart to form a longitudinal channel 14 for receiving the insulator supporting units U. Each insulator supporting unit may be bent up into L-shape from a piece of bar or from a piece of channel iron 15, as shown. The horizontal part 15^b of each unit is given a quarter twist to bring the end 15^e into vertical position and parallel with the other part 15^i, whose end is provided with a spiral spring 16 forming the thread for receiving the insulator 2. The ends 15^e of the horizontal parts 15^b of the units are inserted between the vertical flanges 12 of the back support members 10 and 11 and are secured in such position preferably by rivets 17 extending through rivet holes in the flanges 12 and the ends 15^e respectively. In order to prevent vertical swing of the units small lugs 18 are formed in the flanges 12 by any well-known punching process, these lugs extending into the channel 14, one above and one below each side of the ends 15^e of the units, and these lugs being also in a vertical plane to the rear of the plane of the rivets 17 or, as shown, in a vertical plane in front of the rivet plane. These lugs by being interposed in the path of the upper and lower faces of the ends 15^e will form locking abutments to prevent rotational displacement of the units when the bracket is in service and enable the units to bear heavy wires or cables. Instead of using rivets bolts could be used, so that the bracket could be assembled just before being put into service. The horizontal flanges 13 of the angle members 10 and 11 are punched to leave bolt holes 19, such bolt holes appearing preferably adjacent the inner ends of the insulator units, so that the bolts which secure the bracket to a support will be in the line of strain on the bracket to thus directly receive the strain and to prevent buckling, bending or other distortion of the angle members. The horizontal flanges 13 of the angle members give a comparatively wide and substantial en-

gaging base for the bracket, which will be better able to withstand swing of the bracket when under wire tension. The bracket can, therefore, be formed entirely of stock material, the angle members being punched to provide bolt holes and to provide the locking lugs. These locking lugs eliminate the necessity of providing a number of rivets for securing each insulator supporting unit in place, only a single rivet or bolt being necessary.

The form of bracket just described is intended to be mounted in vertical position to a support. In Fig. 3 the bracket shown is intended to be mounted in horizontal position, and for this arrangement the insulator supporting units are not given a quarter twist but are merely bent into L-form, the horizontal part 15^h being inserted and riveted between the forwardly extending flanges 12 of the supporting base and the other members of the units extending upwardly to receive the insulators. In this form also the bolt holes are placed to be in direct line of pull or weight on the insulators, and where the insulator supporting units are subjected to side pull or strain it is also desirable to provide lugs 18 in the same manner as in Figs. 1 and 2.

In Figs. 4 and 5 are shown other adaptations of my invention, particularly to produce an adjustable bracket. The two supporting members 21 and 22 are similar and of L-shape to form the base parts 21^b and the forwardly extending parts 21^f between which the insulator bracket U is held, the parts 21^b having bolt holes 23. The brackets are also of L-form and bent up of channel iron, the horizontal parts 15^h being inserted between the parts 21^f of the upper and lower supporting members, and a rivet may pass through these parts and through the unit, or a bolt 24 can be used. In Fig. 4 the insulator extends forwardly with the part 15^h perpendicular to the supporting wall, and to hold the insulator in this position and to prevent lateral and rotational displacement thereof lugs 18 are provided in the parts 21^f to engage at either side of the parts 15^h of the unit and in a plane in front of the bolt plane. The bolt, therefore, together with the lugs, will absolutely prevent any lateral displacement of the insulator supporting unit with reference to its support.

On account of supporting wall conditions it is sometimes desirable that the supporting unit U be adapted to be adjusted laterally with reference to its supporting base, for example to the position shown in Fig. 5 where the supporting unit is parallel with the supporting base and with the supporting wall to which the base may be secured. In order to also lock the supporting unit when in its adjusted position I provide abutment lugs 18′ in the upper and lower members 21 and 22 and in a plane to the rear of the plane of the bolt 24. When the unit is swung to the position shown in Fig. 5 at right angles with the position shown in Fig. 4 the lugs 18 engage the front edges of the unit and the rear lugs 18′ engage the rear edges of the unit when the bolt 24 is drawn tight, and the unit is securely clamped against lateral or rotational displacement.

Instead of having the base constructed to support only a single unit, as shown in Figs. 4 and 5, the base members could of course be lengthened to support a number of units. In the forms of Figs. 4 and 5, as in the forms shown in Figs. 1 to 3, the base is comparatively wide and the insulator supporting units are rigidly supported, and being securely locked against any displacement with relation to the base the insulators are particularly adaptable for supporting heavy loads, such as heavy feed wires.

Instead of providing rivets and abutment lugs for locking the insulator supporting units to the members, the supporting members and units can be welded together, as for instance, by some electric welding process.

I do not desire to be limited to the precise forms and constructions which I have shown, as other forms and modifications are of course possible which would still come within the scope of my invention, and I therefore claim the following:

1. In an insulator bracket, the combination of two supporting members having walls arranged adjacent each other to form a channel, an insulator supporting unit having an end extending into said channel, a bolt or rivet passing through said adjacent walls and said end of the unit to secure said unit and said walls together, and lugs formed on said walls to engage with said end of the unit to lock said unit against swinging, said supporting members having bolt holes whereby they may be secured to a support.

2. In an insulator bracket, the combination of two angle members having bolt holes in one wall whereby said members may be secured to a support and having their other walls adjacent each other to form a channel, an insulator supporting unit having one end extending into said channel and riveted to the adjacent walls of the supporting members, and lugs formed in said walls to extend into said channel at either side of said unit end to lock said unit against rotational displacement.

3. In an insulator bracket, the combination of angle members having bolt holes in one wall whereby they may be secured to a support and having their other walls adjacent each other to form a channel, an insu-

lator unit having an end extending into said channel, a bolt or rivet passing through said adjacent walls and the unit end extending between said walls to secure the unit to said members, and lugs punched out of said adjacent walls to extend into said channel and to engage with said end of the unit in a plane away from the plane of the bolt or rivet whereby to lock said unit against rotational displacement.

4. In an insulator bracket, the combination of two angle members arranged with walls thereof adjacent each other to form a channel and having the other walls provided with bolt holes, said adjacent walls having holes in the plane of said bolt holes for receiving a bolt or rivet, an insulator supporting unit having an end adapted to extend into said channel, said end having a hole for receiving a bolt or rivet passed through the registering holes of said adjacent walls whereby said unit may be secured to the supporting members, and lugs punched from the adjacent walls to extend into said channel to engage with the unit end in the plane displaced from the plane of the bolt or rivet, whereby said unit will be locked against rotational displacement.

5. In an insulator bracket, the combination of two angle plates having base walls provided with bolt holes and having their other walls arranged adjacent to and parallel with each other to form a receiving channel, an insulator supporting unit having one end extending into said channel, a bolt or rivet passing through said adjacent walls of the angle plates and the unit end between them to lock the plates together and the unit thereto, and projections punched out from said adjacent walls to extend into said channel to lock said unit against rotational displacement with reference to the plates, said projections being spaced to engage with and to lock said unit in various angular positions with reference to said plates.

6. In an insulator bracket, the combination of metallic angle members having base parts adapted to be secured to a support and having the other walls arranged in parallelism with each other to form a channel, said adjacent walls each having a bolt opening, an insulator unit having an end extending into said channel between said adjacent walls and having a bolt opening for registering with said bolt holes in said walls, a bolt passing through said registering holes to hold said adjacent walls together and to pivot said unit therein, and projections or lugs punched from said adjacent walls to extend into said channel, said projections or lugs being in position to lock said unit against rotational displacement after adjustment to various angular positions with reference to said angle members.

7. In an insulator bracket, the combination of two angle plates having walls arranged adjacent each other to form a channel, an insulator supporting unit having an end extending into said channel, and means for securing said unit rigidly to said adjacent walls to prevent displacement thereof.

8. In an insulator bracket, the combination of two angle plates having walls arranged adjacent each other and parallel to form a channel, an insulator supporting unit having an end extending into said channel and parallel with said walls, and common means for securing said angle plates together and to said unit to form a rigid structure.

In witness whereof, I hereunto subscribe my name this 19th day of October, A. D., 1910.

CHARLES L. PEIRCE, JR.

Witnesses:
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A. R. ROBITZEK.